

Are Mexican American Adolescents at Greater Risk of Suicidal Behaviors?

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A reexamination of ethnicity as a risk factor for adolescent suicidal behavior, focusing on whether Mexican American youths are at increased risk, was undertaken. Data from a sample of 4,175 African, European, and Mexican Americans, aged 11–17, are presented. We examined lifetime attempts and past year attempts, thoughts, and plans. Odds ratios, adjusting for covariates, indicate no differences between European and Mexican Americans on past year thoughts, plans, or attempts or lifetime attempts. Although some studies have reported Mexican American youths are at increased risk, we did not find any differences. Possible explanations for disparate results across studies are discussed, in particular methods effects.

Without question, suicide is a major public health problem in the United States. In fact, suicide claims more lives in the United States each year than homicide (see Satcher, 1998), and is the third leading cause of death for persons 15–24 years old (Guyer et al., 1998; Moscicki, 1997; National Center for Health Statistics, 1993). In addition to the immediate social and psychological impacts, the loss of each adolescent to suicide represents, on average, a loss of 60 or more person-years potential contribution to society. Suicidal behavior has been reported as a leading cause of psychiatric emergencies among children and adolescents (Robinson, 1986; Safer, 1996) and one of the strongest predictors of psychiatric hospital admissions for adolescents (Hillard, Slomowitz, & Deddens, 1988; Safer, 1996).

Recent community-based, epidemiologic studies report prevalence of suicidal ideation for adolescents ranging from about 2% to as high as 60% (Garrison, Addy, Jackson, McKeown, & Waller, 1991; Roberts, 2000). The prevalence of suicide attempts tends to be much lower, with lifetime prevalence for adolescents ranging from 3.5% to 15% (Andrews & Lewinsohn, 1992; Centers for Disease Control and Prevention [CDC], 2000; Lewinsohn, Rohde, & Seeley, 1994; Roberts, 2000; Shaffer & Hicks, 1992). Safer (1997) reported that lifetime prevalence of attempted suicide is about 3–4% using structured interviews in epidemiologic studies and 7–10% using anonymous questionnaires.

Moscicki (1995) has noted that worldwide, suicide rates differ by age, gender, marital status, socioeconomic status (SES), and race or ethnicity. These data refer primarily to adult suicides. What is the evidence for ethnicity as a risk (or protective) factor for suicidal behaviors among adolescents? Unfortunately, the evidence we have does not allow us to say with any degree of confidence whether some ethnic groups are at greater risk of depression or suicidal behaviors and

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others are at lesser risk. For most ethnic groups in the United States, we do not know either the prevalence or incidence of suicidal behaviors, be they ideation, plans, attempts, or complete suicide. This is incongruous, given that ethnicity is a central theme of the American experience. In fact, Alba (1990) has argued that ethnic differences form a possibly permanent substructure, if not the ultimate bedrock of American society.

Psychological disorders primarily involve disturbances of mood, cognition, and behavior. Culture has been found to directly influence emotion, behavior, and cognitive expectations (Campos, Mumme, Kermoian, & Campos, 1994). Given this, it should follow that ethnicity constitutes a useful construct for organizing research on the causes and consequences of psychological dysfunction, in this case, suicide. Ethnicity would appear to be particularly salient in the development and successful adaptation of adolescents in a culturally diverse society (Aries & Moorehead, 1989; Bernal, Knight, Ocampo, Garza, & Cota, 1993; Helms, 1985; Phinney & Alipuria, 1990).

Rates of psychological dysfunction, including suicidal behaviors, may be similar or different across ethnocultural groups. In the latter case, such differentials may be due to (1) different (unique) risk and protective factors in the groups, (2) the same (generic) risk and protective factors operating differentially across groups, or (3) the effects of both generic and unique factors across groups (Roberts, 2000).

How might ethnicity contribute to differential risk of suicidal behaviors, if indeed it does? From a theoretical perspective, studies of the relationship between ethnicity and psychological distress or psychiatric disorder, and by extension suicidal behaviors, implicitly or explicitly examine two competing hypotheses. One argues that observed ethnic differences are primarily due to social class effects, and the other argues that there are ethnicity effects (both positive and negative) on mental health over and above social class effects (Robert, 2000; Roberts & Vernon, 1984). Thus disadvantaged social class does not necessarily place members of an ethnic group at risk of dysfunction. Essentially,

these two arguments turn on a single question of fact: Are the rates of the dysfunction, such as suicide attempts, in ethnic minority populations different than the rates in the dominant ethnic population, when social status inequalities are controlled? If so, then the ethnic culture hypothesis is supported; if not, the minority status hypothesis is sustained (Mirowsky & Ross, 1980; Roberts, 2000; Roberts & Vernon, 1984).

Examples of cultural factors that might operate to increase or decrease risk of suicidal behaviors are acculturative stress (Hovey, 1998; Rogler, Cortes, & Malgady, 1991; Vega, Gil, Zimmerman, & Warheit, 1993), ethnic identity (Mossakowski, 2003; Phinney, 1991; Phinney & Chavera, 1992; Roberts et al., 1999; Tajfel & Turner, 1986), and fatalism (Mirowsky & Ross, 1984; Neff & Hoppe, 1993; Roberts, 2000; Roberts, Chen, & Roberts, 2000). High acculturative stress, weak ethnic identity, and fatalism theoretically increase risk and low acculturative stress, strong ethnic identity, and low fatalism decreases risk of suicidal behavior. (See general discussions by Agbayani-Siewart, Takeuchi, & Pangan, 1999; Brown, Sellers, Brown, & Jackson, 1999; Sáez-Santiago & Bernal, 2003; Takeuchi & Williams, 2003, of ethnicity, culture, and mental health). Another key construct in this regard is prejudice and discrimination, which the literature consistently finds increases risk of psychological dysfunction (Jackson, Williams, & Torres, 1997; Kessler, Mickelson, & Williams, 1999; Ryff, Keyes, & Hughes, 2003; Williams & Harris-Reid, 1999; Williams, Spencer, & Jackson, 1999).

In spite of the acknowledged role of race and ethnicity in the United States, and increasing diversity of our population, there have been remarkably few epidemiological studies of adolescent suicidal behaviors in diverse ethnic groups. Based on the data from two studies (Demetriades et al., 1998; Smith, Mercy, & Warren, 1985), it is unclear how suicide risk is affected by ethnicity, since the results are inconsistent comparing suicide rates for African, European, and Latino American youths. Two more recent reviews (Canino & Roberts, 2001; Roberts, 2000)

concluded that rates of nonfatal suicidal behaviors (thoughts, plans, attempts) were higher in some studies for Latino youths and lower for African Americans compared with their European American peers. However, the evidence from the studies reviewed was mixed. For example, Roberts, Chen, and Roberts (1997) examined differences in suicidal thoughts, suicide plans, and suicide attempts for nine ethnic groups. Multivariate logistic regression analyses, adjusting for the effects of age, gender, and SES, yielded significant odds ratios using the European American group as the reference for suicidal ideation for the Mexican, Pakistani, and Vietnamese American groups. For plans, only mixed ancestry youths and Pakistani youths had elevated risk. For recent attempts, only the Pakistani American youths had elevated risk. Borowsky, Ireland, and Resnick (2001) found that overall there was no significant difference among Black, Hispanic, and European American males or among females in these groups in suicide attempts in the past year.

Given the mixed evidence reported to date in the literature concerning possible differential risk for adolescent suicidal behaviors among different ethnocultural groups, in particular Latino American youths, our goal in this study was to reexamine this question contrasting youths from three groups: African, European, and Mexican Americans. We focused on this latter group for two reasons. First, there are few data on this specific Latino subgroup, even though it is the largest Latino group. Second, Latinos constitute diverse groups that differ in many respects (Canino & Roberts, 2001).

We used data from a large ($N = 4,175$) community sample of youths aged 11–17 who were assessed using structured interviews to collect data on suicidal thoughts, plans, and attempts; *DSM-IV* psychiatric disorders; and an array of putative risk and protective factors.

METHODS

The data are taken from Teen Health 2000 (TH2K). The sample was selected

from households in the Houston metropolitan area enrolled in local health maintenance organizations. One youth, aged 11–17 years, was sampled from each eligible household, oversampling for African and Mexican American households. Since ethnic status was not available, a sampling fraction was used to generate a completed overall baseline target sample of 4,500 (1,500 in each of 3 ethnic groups). Because there were proportionately fewer minority subscriber households encountered, we developed sample weights that were adjusted by poststratification to reflect the age, ethnicity, and gender distribution of the five-county Houston metropolitan area in 2000. The total population was 4,669,571, of which 515,736 were 11–17 years of age. Of these, 94,498 were African Americans; 166,821 were Mexican Americans; and 220,410 were European Americans. The precision of estimates are thereby improved and sample selection bias reduced to the extent that it is related to demographic composition (Andrews & Morgan, 1973). Thus, the weighted estimates generalize to the population 11–17 years of age in a metropolitan area of 4.7 million people. Chi-square tests were used to compare ethnicity, gender, and age distributions between census data for the five-county area and sample data for both before and after the weighted procedure, showing that the distribution of age and ethnicity were statistically significant ($p < 0.0001$, $p < 0.0001$) in the raw data and census data, but not for gender ($p = 0.78$), while no difference was identified between the two distributions with respect to the three demographic factors of age, gender, and ethnic group ($p = 0.99$, $p = 0.93$, $p = 0.99$, respectively). In another words, the weighted sample represents the five-county area population composition (age, gender, and ethnicity) after poststratification adjustment.

Data were collected at baseline on sample youths and one adult caregiver using computer-assisted personal interviews and self-administered questionnaires. The computerized interview contained the structured psychiatric interview (see below), demographic data on the youths and the house-

hold, as well as queries about stress exposure. The interviews were conducted by trained, lay interviewers and took on average 1–2 hours, depending on the number of psychiatric problems present. The questionnaires contained questions on symptoms of disturbed sleep and items assessing different dimensions of the ethnic experience. These took about 30 minutes to complete. Interviews and questionnaires were completed with 4,175 youths (1,475 European American, 1,479 African American, and 857 Mexican American; another 364 youths were of various “other” ethnic backgrounds). Interviews were completed in 66% of the eligible households. There were no significant differences among ethnic groups in completion rates. All youths and parents gave written informed consent prior to participation in this study. All study forms and procedures were approved by the University of Texas Health Sciences Center Committee for Protection of Human Subjects.

The sample was diverse (see Table 1). The youth cohort was 51.1% male at baseline. In terms of age distribution at baseline, 27.4% were 12 or younger, 48.1% were 13–15, and 24.5% were 16 or older. In terms of ethnic status, the cohort was 35.4% European American, 35.4% African American, 20.5% Mexican American, and 8.7% others. Comparisons of households by ethnic groups revealed minority households were slightly younger in terms of caregiver age, less educated (particularly Mexican Americans), and with lower income.

Psychiatric disorders among youths were assessed with the Diagnostic Interview Schedule for Children, Version 4 (DISC-IV), a highly structured instrument (Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000) designed to be administered by lay interviewers. In TH2K, we included anxiety disorders (agoraphobia, generalized anxiety, panic, social phobia, posttraumatic stress disorder), affective disorders (major depression, dysthymia, mania, hypomania), disruptive disorders (conduct, oppositional defiant, attention-deficit hyperactivity disorders), eating disorders (bulimia, anorexia nervosa), and sub-

stance use (alcohol, marijuana, and other substance disorders). Our measure of presence of mental or behavioral problems was diagnosis of any *DSM-IV* disorder in the previous 12 months. In Wave 1, 15.6% of the youths met diagnostic criteria for one or more disorders. There were no significant differences across ethnic groups.

Lifetime suicide attempts were ascertained by the following DISC-IV probe: Have you ever in your whole life tried to kill yourself or made a suicide attempt (*yes/no*)? Past year suicide attempts were assessed with one question: In the last year, have you tried to kill yourself (*yes/no*)? Since a number of studies also have examined suicidal ideation (thoughts and plans), we also include data on responses to two additional questions: (1) In the past year, was there a time when you thought seriously about killing yourself (*yes/no*)?; (2) In the last year, did you have a plan for exactly how you would kill yourself (*yes/no*)?

For this study, we contrasted European American, African American, and Mexican American youths. This latter group consisted of those who reported they were of Mexican origin born in the United States or born in Mexico. There were few in the other Latino groups. Mexican American caregivers were given the option of completing the assessments in either English or Spanish. All youths were assessed in English.

Reviews of the literature on risk and protective factors related to suicidal behaviors have noted the putative role of a broad array of factors drawn from multiple domains (see Blumenthal, 1990; Gould & Kramer, 2001; King, 1997; Lewinsohn, Rohde, & Seeley, 1996; Moscicki, 1997; Roberts, 2000). From this array, there is considerable consensus concerning the role of age, gender, socioeconomic status, life stress, and psychopathology; in particular, depression and substance use. Given this, in our analyses, we adjusted for the effects of age and gender of youths; total family income and caregiver education; disturbed mood; use of alcohol, marijuana and other substances; and life stress. As noted in the introduction, there is also evidence of

TABLE 1
Unweighted Sample Characteristics, Teen Health 2000 (Wave 1)

Characteristics	% Total Sample N = 4,175	% EA n = 1,479	% AA n = 1,476	% MA n = 857
Gender of Youth				
Male	51.1	53.4	49.0	51.6
Female	48.9	46.6	51.0	48.4
Age of Youth				
16+	24.9	27.3	23.6	24.4
Between 13 and 15	48.1	49.2	47.7	47.3
12 or less	27.0	23.5*	28.7	28.3
Caregiver Education				
15+ years	38.6	49.0	43.7	15.6
13–14 years	29.4	27.2	34.6	25.3
≤12 years	32.0	23.8	21.8*	59.1
Family Income				
\$65,000+	35.3	55.2	25.5	20.6
\$35,000–\$64,999	40.7	35.9	40.8	45.9
<\$35,000	24.0	8.9*	33.7	33.5
Parental Marital Status				
Married	75.7	84.7	62.8	82.0
Others	24.3	15.3	37.2*	18.0

EA = European American

AA = African American

MA = Mexican American

*Denotes the comparison was statistically significant ($p < 0.05$) within all categories of each selected factor with respect to EA, or AA, or MA; the location of * indicates it was most different within the categories.

associations between psychopathology, acculturative stress, ethnic identity, fatalism, and discrimination. We also examined these covariates by evaluating whether, ethnic differences remain after the other covariates are entered in the regression analysis.

Because diagnostic criteria for depression include indicators of suicidal behaviors, we measured disturbed mood (whether youths had experienced depressed mood, anhedonia, or irritable mood) for a period of 2 weeks in the past year rather than a diagnosis of depression. Alcohol use was measured by reports of consuming any alcohol in the past year. Drug use similarly was assessed by use of marijuana and any other substances in the past year. (We also examined the effects of substance use using a more stringent defini-

tion of six or more times in the past year. The results were essentially unchanged in terms of odds ratios. The less stringent definition increased effective sample size.)

Age was categorized as 12 or younger, 13–15, and 16 or older. Family income was categorized as less than \$35,000 per year, \$35,000–\$64,999, and \$65,000 and above. Caregiver education was categorized as high school degree or less, less than 2 years of post-high school education, and those with more education. School stress was measured by a set of 11 items asking about problems in the school environment ($\alpha > 0.80$). The score ranged from 0–33, with 0–5 scored as being low stress, 6–11 as moderate stress, and 12 and over as high stress. Similarly, community or neighborhood stress was assessed with 10

items on problems in the neighborhood ($\alpha > 0.85$); the score ranged from 0 to 30. Low stress was scored as 0–2, moderate stress as 3–5, and high stress as 6 or more. Economic stress was measured with six items inquiring about youth perceptions concerning family difficulty in paying for housing, food, school supplies, and other needs ($\alpha > 0.90$). Low was scored 0, moderate as 1–2, and high stress as 3 or more. We have followed this strategy in prior analyses of these data (Roberts, Alegria, Roberts, & Chen, 2005a, 2005b; Roberts, Roberts & Chan, 2006; Roberts, Roberts, & Chen, 2002) and, in the interest of both comparability and continuity, do so here. Controlling for the effects of such status differentials, if observed differences are diminished, provides support for the social status hypothesis. If observed differences are not diminished, then by definition there is support, at least implicitly, for the ethnic culture hypothesis. For generation of the confidence interval for the prevalence and odds ratio, svy-mean and svylogit (survey logistic regression) procedure in STATA V8.2 was employed. This procedure uses Taylor series approximation to compute the standard error of the odds ratio. Lepkowski and Bowles (1996) have indicated that the difference in computing standard error between this method and other repeated replication methods such as the jackknife is very small.

RESULTS

Table 2 presents weighted crude prevalences for suicide attempts, plans, and thoughts in the past year by ethnicity, gender, and age. African American youths reported significantly lower rates of all three indicators, as did males and younger youths. Table 3 presents data on weighted prevalences and odds ratios for past year attempts by ethnicity, both crude and adjusted for covariates (age, gender, family income, parental education, depression, alcohol use, marijuana use, other substance use, school stress, neighborhood problems, and economic stress). While crude odds ratios indicate European American

youths are at greater risk of past year attempts than their African American counterparts, adjustment for covariates eliminated all ethnic differences.

Lifetime prevalences for suicide attempts and odds ratios for ethnic contrasts are presented in Table 4. There were no ethnic differences between the three groups. Multivariate analyses using the same strategy used for past year suicide indicators and the same set of covariates affected observed patterns very little.

DISCUSSION

To summarize our findings, European American (EA) youths were at greater risk of suicidal thoughts in the past year than Mexican Americans (MA), and this group was at greater risk than African Americans (AA) for suicidal attempts and thoughts. Majority group youths also were at increased risk for thoughts and attempts than African Americans. Thus, our data provide no evidence that Mexican American youths are at greater risk of suicidal behaviors than majority youths.

Our results, unfortunately, do not clarify the mixed message emanating from existing literature. In the case of attempts, the most serious of the suicidal behaviors, Roberts and colleagues (1997) found no evidence for significant differences among EA, AA, and MA youths for recent attempts nor for lifetime attempts. Borowsky et al. (2001) also found no differences between these three groups for attempts in the past year, nor did Kann et al. (1998) using Centers for Disease Control and Prevention (CDC) data from the Youth Risk Behavior Surveillance System (YRBSS). Garofalo, Wolf, Wissow, Woods, and Goodman (1999) also used the CDC instrument and found that Latino Americans (LAs) reported higher prevalence of suicidal attempts in the past year. Similarly, Vega et al. (1993) reported LA youths had the highest rates of lifetime suicide attempts.

The only body of data on suicidal behaviors by adolescents over time for the United States comes from the YRBSS, con-

TABLE 2
Weighted Prevalences (%) and 95% Confidence Intervals of Past Year Suicide Indicators by Selected Factors

	Attempts		Plans		Thoughts	
Overall	1.35	(0.97, 1.74)	1.26	(0.89, 1.63)	3.72	(3.09, 4.35)
Ethnicity						
EA	1.51**	(0.88, 2.15)	1.62***	(0.99, 2.26)	4.85*	(3.73, 5.97)
AA	0.56	(0.19, 0.93)	0.64	(0.21, 1.06)	2.25	(1.48, 3.02)
MA	1.68	(0.82, 2.54)	1.40	(0.60, 2.19)	3.50	(2.27, 4.74)
Gender						
Male	0.81**	(0.37, 1.26)	1.02 ^{n.s.}	(0.56, 1.48)	3.11 ^{n.s.}	(2.29, 3.93)
Female	1.92	(1.28, 2.56)	1.51	(0.93, 2.09)	4.37	(3.41, 5.33)
Age						
Higher	2.05*	(1.12, 2.98)	1.98*	(1.07, 2.88)	4.93*	(3.51, 6.35)
Middle	1.51	(0.93, 2.10)	1.11	(0.60, 1.61)	3.69	(2.80, 4.58)
Lower	0.44	(0, 0.89)	0.77	(0.24, 1.31)	2.58	(1.56, 3.61)

EA = European American; AA = African American; MA = Mexican American
* $p < 0.001$; ** $.001 < p < 0.01$; *** $.01 < p < .05$; n.s. = $p \geq .05$

ducted under the auspices of the Centers for Disease Control and Prevention. Data have been collected nationally every 2 years, be-

ginning in 1991. Examination of these data, available on their Web site, over the seven surveys completed to date, indicate consistently higher rates of suicide attempts for La-

TABLE 3
Weighted Prevalences (%) and Weighted Odds Ratios for Past Year Suicide Attempts by Ethnicity

Prevalences		Suicide Attempts	
Overall		1.36	(0.20–1.75)
Ethnicity	EA	1.51*	(0.88, 2.15)
	AA	0.56	(0.19, 0.93)
	MA	1.68	(0.82, 2.54)
Odds Ratios			
Ethnicity (crude)	EA: MA	0.90	(0.40, 2.04)
	AA: MA	0.33	(0.12, 0.92)
	EA: AA	2.73**	(1.04, 7.16)
Ethnicity (adjusted ¹)	EA: MA	0.68	(0.21–2.19)
	AA: MA	0.29	(0.08–1.07)
	EA: AA	2.32	(0.66–8.13)

EA = European American; AA = African American; MA = Mexican American
Adjusting for age, gender, family income, parental education, depression, alcohol(usage), marijuana(usage), others substances(usage), school stress, neighborhood problems, economic stress.
*.001 < $p < 0.01$; **.01 < $p < .05$

TABLE 4
Weighted Prevalences (%) and Weighted Odds Ratios for Lifetime Suicide Attempts by Ethnicity

Prevalences		Suicide Attempts	
Overall		4.10	(3.45, 4.76)
Ethnicity	EA	5.05 ^{n.s.}	(3.91, 6.18)
	AA	3.42	(2.49, 4.34)
	MA	3.58	(2.28, 4.87)
Odds Ratios			
Ethnicity (crude)	EA: MA	1.43	(0.83, 2.46)
	AA: MA	0.95	(0.54, 1.69)
	EA: AA	1.50	(0.96, 2.35)
Ethnicity (adjusted ¹)	EA: MA	1.25	(0.62, 2.54)
	AA: MA	1.13	(0.55, 2.29)
	EA: AA	1.11	(0.63, 1.96)

EA = European American; AA = African American; MA = Mexican American
¹Adjusting for age, gender, family income, parental education, depression, alcohol(usage), marijuana(usage), others substances(usage), school stress, neighborhood problems, economic stress.
n.s. = $p \geq .05$

tinians, contrasted with European Americans, who in turn have somewhat lower rates than African Americans. This same general pattern also is observed for suicide attempts requiring medical attention.

On the other hand, our data indicating a lower risk for past year attempts for African American youths is consistent with data from the CDC on completed suicides among African American youths, contrasted with majority youths (Centers for Disease Control and Prevention, 1998). Our data also are consistent with those for adults in the National Comorbidity Survey (Kessler, Borges, & Walters, 1999), in which African American adults 15–54 years of age reported fewer suicide attempts. This general pattern of lower risk, while not completely consistent across studies of adolescents, raises questions about possibly different risk factor profiles in this population. Unfortunately, there have been few studies of adolescents that have examined the role of generic versus ethnic specific risk and protective factors.

Safer (1997), in his extensive review of the literature on self-reported suicide attempts using face-to-face interviews, concluded that the best estimate for prevalence was 4.2% (the median) for lifetime and 2.7% for past year for studies done in Canada and the United States. The lifetime prevalence in our study, using the same research strategy, is 4.1%, and prevalence for past year attempts is 1.4%, much lower than the median rate reported by Safer (2.7%). However, our rate of 1.4% is similar to the past year rates (1.7%) reported by Garrison et al. (1991) and Andrews and Lewinsohn (1992) in two U.S. studies, but much lower than reported in a Canadian study (Joffe, Offord, & Boyle, 1988). Thus, we conclude that based on non-anonymous, face-to-face interviews, the prevalence of lifetime attempts is in the range of 4% while the prevalence for past year attempts is between 1% and 2% in the United States.

Several limitations to our study should be noted. We used the DISC-IV to assess presence of psychopathology, including suicidal behaviors. The latter are assessed with

a brief set of queries. None of these queries focus on suicidal intent. A large proportion of putative suicide attempts do not involve intent to die (Briere & Gil, 1998; Favazza, 1998; Fulwiler, Forbers, Santangelo, & Folstein, 1997; Patton et al., 1997). The work by Patton et al. suggests that controlling for intent can dramatically lower estimates of the prevalence of attempts.

Another concern is variation in temporal referent. Some studies report lifetime attempts, some attempts in past year, and more rarely, both. Among those studies that report both lifetime and past year, the ratio between the two is 1.7 (Dubow, Kaush, Blum, Reed, & Bush, 1989), and 4.2 (Andrews & Lewinsohn, 1992). For TH2K, the ratio was 2.9. Different samples, different time of studies, and different measures may account for some of this variation; however, there may be other factors operating as well. Within the same sample, using the same measures, we find rather dramatic ethnic differences in the ratio of lifetime to past year reports of attempts: Mexican American (2.3), European American (3.3), and African American (5.7). It is difficult to imagine that such a diversity of ratios across ethnic groups represents a real epidemiologic effect. A more likely hypothesis is differential recall and/or sensitivity concerning stigma of suicidal behaviors (see Diekstra, Kienhorst, & De Wilde, 1995; Safer, 1997; Spirito, Brown, Overholser, & Fritz, 1989). Our results suggest that ethnicity is one factor affecting this potential differential in recall and reporting.

Another critical element in the study of nonfatal suicidal behaviors is lethality of the method used (Beautrais, 1999; Brent, 1987; Lewinsohn et al., 1996; Moscicki, 1997; Roberts et al., 1997). Very few community-based surveys have incorporated measures of lethality of methods used in attempts. Studies that have done so indicate that focusing on more lethal methods reduces estimates of prevalence (Andrews & Lewinsohn, 1992; Garrison, McKeown, Valois, & Vincent, 1993; Meehan, Saltzman, & Sattin, 1991). One of the queries in the DISC-IV asks youths who report an attempt

in the past year whether medical intervention occurred. We contrasted the odds of medical intervention among those who had an attempt in the past year across ethnic groups and found the prevalence of suicide attempts with medical intervention was 0.33%. European American youths were three times as likely and MA youths were two times as likely to receive medical intervention after an attempt as African American youths. However, due to very small numbers, none of the differences were significant. Patton et al. (1997) estimated the prevalence of true suicide attempts was less than 1%, which is comparable to our estimate of 0.33%.

We began this paper with the question of whether disadvantaged, minority adolescents (particularly Mexican Americans) were at greater risk of attempting suicide. As our results, and our review of the literature indicate, the state of the empirical world is far from clear in this regard. Indeed, as we have

shown, there is a question about whether Mexican American and African American youths, who are clearly disadvantaged minorities, are at greater risk than youths from the majority group. In the case of African Americans, there is evidence of lower risk in some studies, including data we have presented from TH2K. On the other hand, we cannot say unequivocally whether Mexican American youths in general are at greater or lesser risk of attempting suicide than are majority youths. Thus, the viability of various conceptual frameworks attempting to explain ethnocultural differences in suicidal behaviors remains unknown. The question of the contribution of disadvantaged minority status and ethnic culture to risk of suicidal behaviors awaits stronger and more consistent evidence on the incidence and prevalence of such behaviors in different ethnocultural contexts.

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